THAT WHICH IS CLAIMED IS:

1. A method for tuning the torsional natural frequency of a rotor comprising the step of forming within winding slots defined by radially projecting winding teeth at least one tuning slot that extends radially inwardly from the bottom of the winding slot a distance to tune the rotor to a desired torsional natural frequency.

2. A method according to Claim 1, wherein the at least one tuning slot has a width smaller than the diameter of any winding wire received within the winding slot to prevent winding wire from passing into the tuning slot.

3. A method according to Claim 1, wherein the at least one tuning slot is positioned at a location that minimizes impact to the electromagnetic characteristics of the rotor cross-section.

4. A method according to Claim 1, and further comprising a plurality of tuning slots.

5. A method for tuning the torsional natural frequency of a rotor having opposing poles and a quadrature axis, comprising the step of forming within the winding slots defined by radially projecting winding teeth that are positioned substantially at the quadrature axis, at least one tuning slot that extends radially inwardly from the bottom of the winding slot a distance to tune the rotor to a desired torsional natural frequency.

6. A method according to Claim 5, wherein the at least one tuning slot has a width smaller than the width of any winding wire received within the winding slot to prevent winding wire from passing into the tuning slot.

7. A method according to Claim 5, wherein the at least one tuning slot is positioned at a location that minimizes impact to the electromagnetic characteristics of the rotor cross-section.

8. A method according to Claim 5, and further comprising a plurality of tuning slots.

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9. A rotor comprising:

a rotor shaft;

a cylindrically configured rotor body formed as part of the shaft and having a plurality of radially projecting winding teeth that define winding slots for receiving winding wire therein, said winding slots having a bottom portion spaced radially inward; and

at least one tuning slot that extends radially inward from the bottom of a winding slot a distance that tunes the rotor to a desired torsional natural frequency.

10. A rotor according to Claim 9, wherein said at least one tuning slot has a width smaller than the diameter of any winding wire received within the winding slot to prevent winding wire from passing into the tuning slot.

11. A rotor according to Claim 9, wherein the at least one tuning slot is positioned at a location

location that minimizes impact to the electromagnetic characteristics o f the rotor cross-section.

12. A rotor according to Claim 9, and further comprising a plurality of tuning slots.

13. A rotor according to Claim 9, wherein said rotor body is formed of a plurality of rotor laminations stacked together.

14. A rotor comprising:

a rotor shaft;

a cylindrically configured rotor body formed as part of the shaft and having a plurality of radially projecting winding teeth defining winding slots for receiving winding wire therein, said rotor body having two or more poles and a quadrature axis, said winding slots having a bottom spaced radially inward; and

at least one tuning slot positioned at the quadrature axis and extending radially inward from the bottom of the winding slot a distance that tunes the rotor to a desired torsional natural frequency.

15. A rotor according to Claim 14, wherein said at least one tuning slot has a width smaller than the diameter of any winding wire received within the winding slot to prevent winding wire from passing into the tuning slot.

16. A rotor according to Claim 14, wherein the at least one tuning slot is positioned at a location that minimizes impact to the electromagnetic characteristics o f the rotor cross-section.

17. A rotor according to Claim 14, and further comprising a plurality of tuning slots positioned substantially at the quadrature axis.

18. A rotor comprising:

a rotor shaft;

a cylindrically configured rotor body formed as part of the shaft, said rotor body having a plurality of radially projecting winding teeth defining winding slots for receiving winding wire therein, said rotor body having two poles and a quadrature axis, said winding slots having a bottom spaced radially inward; and

at least one tuning slot extending radially inward from the bottom of the coil slot a distance that tunes the rotor to a desired torsional natural frequency, wherein said winding slots positioned at said poles are devoid of any tuning slot.

19. A rotor according to Claim 18, wherein said at least one tuning slot has a width smaller than the diameter of any winding wire received within the winding slot to prevent winding wire from passing into the tuning slot.

20. A rotor according to Claim 18, wherein the at least one tuning slot is positioned at a location that minimizes impact to the electromagnetic characteristics of the rotor cross-section.